

(canceled) 1-2

(currently amended) 3. ~~The assembly of claim 1,~~ A lift pin/actuating assembly, comprising:

a lift pin; and

A,  
an actuating mechanism having an actuator configured to generate movement of the lift pin along a first axis, and a translation mechanism coupled to the actuator and configured to translate movement of the actuator along the first axis into movement of the lift pin along a second axis;

wherein the translation mechanism comprises a motion stop configured to stop movement of the lift pin along the first axis at a predetermined point, and a motion translator configured to translate actuation of the lift pin along the first axis into movement of the lift pin along the second axis, after the predetermined point is reached.

(currently amended) 4. ~~The assembly of claim 2,~~ A lift pin/actuating assembly, comprising:

a lift pin; and

an actuating mechanism having an actuator configured to generate movement of the lift pin along a first axis, and a translation mechanism coupled to the actuator and configured to translate movement of the actuator along the first axis into movement of the lift pin along a second axis;

wherein the movement of the lift pin along the first axis is a vertical movement, and the movement of the lift pin along the second axis is a horizontally pivoting movement about the second axis; and

wherein the translation mechanism comprises a motion stop configured to stop movement of the lift pin along the first axis at a predetermined point, and a motion translator configured to translate actuation of the lift pin along the first

axis into movement of the lift pin along the second axis, after the predetermined point is reached.

(original) 5. The assembly of claim 3, wherein the motion translator comprises a lever.

(original) 6. The assembly of claim 4, wherein the motion translator comprises a lever.

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(currently amended) 10. A lift pin/actuating assembly for a substrate processing chamber, comprising:

a lift pin adapted to hold a substrate in the processing chamber;

a base on which the lift pin is mounted;

a first mechanism adapted to raise and lower the base; and

a second mechanism adapted to convert vertical motion of the base into pivoting motion of the lift pin; and  
a compression spring mounted on the base to bias the lift pin toward a storage position.

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(original) 12. The assembly of claim 10, wherein the lift pin has a horizontally extending upper section on which the substrate is held.

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(currently amended) 14. The assembly of claim ~~13~~ 10, wherein the second mechanism pivots the lift pin away from the storage position as the base is lowered.

(original) 15. A lift pin/actuating assembly for a substrate processing chamber, comprising:

- a base;
- a mechanism adapted to raise and lower the base;
- a lever pivotally mounted on the base;
- a lift pin adapted to hold a substrate in the processing chamber, the lift pin mounted on the lever; and
- a stop adjacent the base and adapted to engage the lever to pivot the lever as the base moves vertically.

A, (original) 16. The assembly of claim 15, wherein a pedestal is mounted for vertical movement in the processing chamber, and the lift pin is moveable to pivot between a first position in which the lift pin obstructs a path of movement of the pedestal and a second position in which the lift pin does not obstruct the path of movement of the pedestal.

(original) 17. The assembly of claim 16, further comprising a spring adapted to bias the lift pin toward the first position.

(currently amended) 18. The assembly of claim 17, A lift pin/actuating assembly for a substrate processing chamber, comprising:

- a base;
- a mechanism adapted to raise and lower the base;
- a lever pivotally mounted on the base;
- a lift pin adapted to hold a substrate in the processing chamber, the lift pin mounted on the lever; and
- a stop adjacent the base and adapted to engage the lever to pivot the lever as the base moves vertically;

wherein a pedestal is mounted for vertical movement in the processing chamber, the lift pin is moveable to pivot between a first position in which the lift pin obstructs a path of movement of the pedestal and a second position in which the lift pin does not obstruct the path of movement of the pedestal;

wherein the assembly further comprises a spring adapted to bias the lift pin toward the first position; and

wherein the base includes a step against which the spring biases the lever when the lever is not engaged by the stop.

A<sub>1</sub> (original) 19. The assembly of claim 18, wherein the spring biases the lever in a downward direction, and the stop engages the lever from below as the base is lowered.

(original) 20. The assembly of claim 15, wherein the lift pin has a horizontally extending upper section on which the substrate is held.

~~(canceled)~~ 21-27

(currently amended) 28. A processing chamber, comprising:  
a chamber enclosure;  
a lift pin adapted to hold a semiconductor substrate in the chamber enclosure;  
a base on which the lift pin is mounted;  
a first mechanism arranged to raise and lower the base; and  
a second mechanism adapted to convert vertical motion of the base into pivoting motion of the lift pin;

wherein the second mechanism includes a stop adjacent the base and adapted to engage a lever on which the lift pin is mounted, the lever being mounted on the base.

(canceled)

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(original)

30. The processing chamber of claim 28, further comprising a pedestal that is movable between a transfer position and a processing position, the lift pin being movable between a storage position in which the lift pin obstructs a path of movement of the pedestal and a retracted position in which the lift pin does not obstruct the path of travel of the pedestal.

(original)

31. The processing chamber of claim 30, further comprising a spring adapted to bias the lift pin toward the storage position.

(currently amended)

32. A lift pin/actuating assembly for a semiconductor processing chamber, comprising:

a lift pin adapted to hold a substrate in the processing chamber; and

a movement mechanism on which the lift pin is mounted, the movement mechanism having a first range of movement in which lowering of the movement mechanism causes the lift pin to be lowered without pivoting and having a second range of movement in which lowering of the movement mechanism causes the lift pin to pivot;

wherein the movement mechanism comprises a motion stop configured to stop movement of the lift pin along the first axis at a predetermined point, and a motion translator configured to translate actuation of the lift pin along the first axis into movement of the lift pin along the second axis, after the predetermined point is reached.

(original) 33. The assembly of claim 32, wherein the first range of movement of the movement mechanism is above the second range of movement of the movement mechanism.

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(original) 34. The assembly of claim 32, wherein the movement mechanism pivots the lift pin between a storage position in which the lift pin is positioned to hold the substrate and a retracted position in which the lift pin is not positioned to hold the substrate.

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